(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 February 2005 (17.02.2005)

PCT

(10) International Publication Number
WO 2005/015259 A1

(51) International Patent Classification[7]: G01S 15/02

(21) International Application Number:
PCT/AU2004/001075

(22) International Filing Date: 11 August 2004 (11.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003904198 11 August 2003 (11.08.2003) AU

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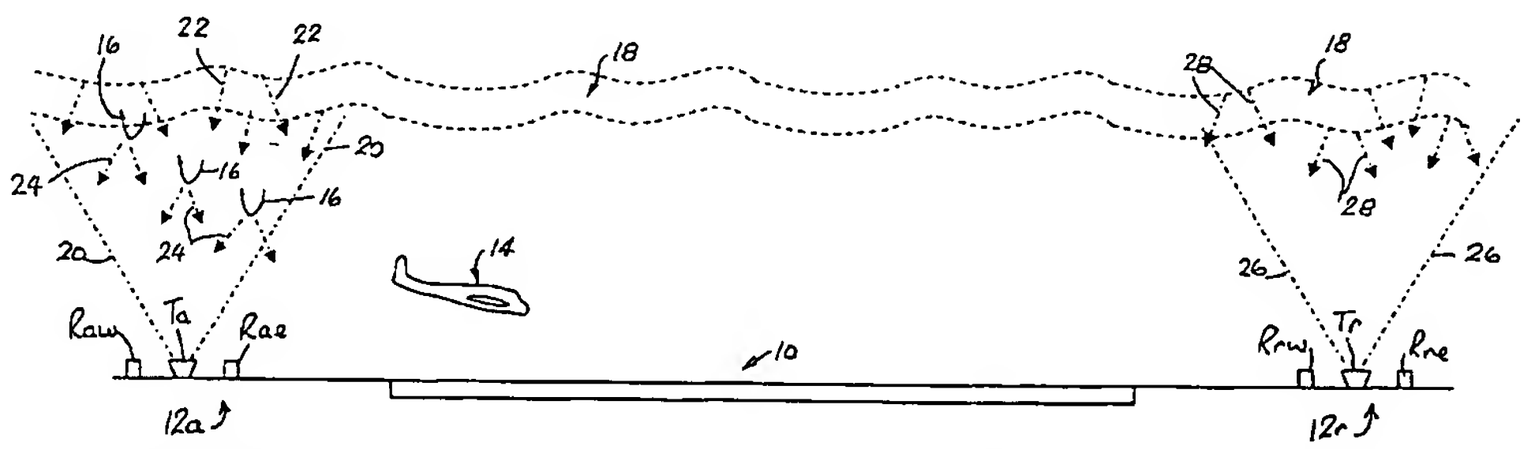
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DETECTION OF WAKE VORTICES AND THE LIKE IN THE LOWER ATMOSPHERE



(57) Abstract: Two SODAR systems (12a and 12r) for detecting and characterizing vortices (16) shed from landing or departing aircraft (14) at an airport (10) are positioned so that one, the active system (1 2a) is located beneath likely vortices (16) and the other, the reference system (12r) is located away from the vortices but in the same ambient environment. Thus, where a wind duct or thermal inversion (18) is present, both SODAR systems will detect echoes (22 and 28) generated thereby, whereas only the active system (12a) will detect echoes (24) from wake vortices (16). By differencing the outputs of the reference and active systems, better vortex identification and discrimination is achieved. Only one SODAR system need be used where there sufficiently normal conditions prevail between aircraft activity, since readings taken in the absence of aircraft can be used as reference data for subtraction from 'active' data recorded during the presence of an aircraft.